REMARKS

Claims 1, 3-6, 8-18, 21-32, 34-41, 43-50 and 52-57 are pending and at issue in the application with claims 1, 17, 29, 38 and 49 being independent claims. Claims 1, 14, 17 and 29 have been amended. Claim 21 has been cancelled. Claim 57 has been added. As a result, 5 independent claims remain in the application as previously paid for, and 49 total claims remain in the application as previously paid for. This response is being timely filed with a two-month extension of time and authorization to charge Deposit Account No. 13-2855 for the requisite extension fee of $450.00. The applicants believe no additional fee is due. However, the Commissioner is hereby authorized to charge any deficiency in the amount enclosed or any additional fees which may be required under 37 CFR 1.16 or 1.17 to Deposit Account No. 13-2855. Reconsideration and withdrawal of the rejections in view of the remarks below is respectfully requested.

Claims 1, 17 and 29 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Each of claims 1 and 17, as well as claim 14, have been amended to replace the term "that worker object" with "the worker object", and claim 29 has been amended to replace the term "that worker process" with "the worker process". Accordingly, the applicants submit that the above amendments overcome the rejections under 35 U.S.C. §112, second paragraph, and respectfully request withdrawal of the same.

New claim 57 corresponds to original claim 20, which was inadvertently cancelled in the previous Response to Office Action Date d June 6, 2006. Claim 21 has been cancelled as intended in the previous response based on the previous indication of allowability of claim 21. Claim 1 has been further amended to correct a potential antecedent basis issue.

Claims 1, 3-6, 8-18, 21-32, 34-41, 43-50 and 52-56 were previously allowable over Liebowitz et al. (U.S. Patent No. 5,812,545), by including the elements of corresponding dependent claims 2, 7, 19, 20, 33, 42 and 51, but are now rejected under 35 U.S.C. §102(e) as anticipated by Liebowitz et al. The applicants respectfully traverse the rejections.

Each of independent claims 1, 17, 29, 38 and 49 recites a method or system of transmitting data through a communication link, the method or system including, among other things, establishing a plurality of worker objects (or processes) where each of the plurality of worker objects or worker processes is capable of forming and delivering a

message to an underlying layer of each of a plurality of communication connections of the communication link. A separate communication connection is associated with each worker object or worker process. Messages may be delivered so that each communication connection uses no more than a predetermined portion of a bandwidth of the communication link, a one-to-one correspondence may be provided between the worker objects or worker processes and a plurality of partitioned data streams, and a time between calls parameters may be provided as one of a uniquely configurable set of parameters for each worker object or worker process.

Liebowitz et al. generally discloses a mesh satellite communications system between a terminal 12 and a satellite 14. (See e.g., Fig. 1). The terminal 12 includes a Fragment Assembler/Disassembler (FAD) 66 that receives data frames from different access devices 42 via a Frame Handler 64 for each access device 42. The FAD 66 creates an outgoing data queue 63 to store data frames from each access device 42, breaks each data frame into fragments, and stores as many fragments as possible in a burst buffer 68. The collection of fragments form a payload 108 with a payload header 106. The burst buffer 68 further stores bandwidth requests for transmission in the payload header 106. (See column 4, lines 30-67).

Liebowitz et al. does not anticipate any of claims 1, 3-6, 8-18, 21-32, 34-41, 43-50 and 52-57, because Liebowitz et al. does not disclose the recited worker objects or worker processes. In reviewing the action, it is unclear what element(s) in Liebowitz et al. are being referred to as the recited worker objects or worker processes. In particular, the action appears to cite each of the data queues 63, the Frame Handlers 64 and the burst buffer 68 as the recited worker object or worker process. Nonetheless, none of the data queues 63, the Frame Handlers 64 or the burst buffer 68 corresponds to the recited worker objects or worker processes, either individually or in combination.

Liebowitz et al. discloses multiple data queues 63, but the data queues 63 correspond to communication connections with which data originates (i.e., the data access devices) and not with communication connections to which messages are delivered (i.e., connections with the satellite 14). (See e.g., column 4, lines 43-47). As such, while it is correct that each data queue 63 corresponds to a communication connection, the communication connections are to receive the data from the data access devices, not to deliver the data as messages (e.g., to the satellite 14). Indeed, even the messages to be delivered (e.g., payload 108 and payload

header 106) are not formed in or by the data queues 63, but rather in the burst buffer 68. The data queues 63 are therefore not the recited worker objects or worker processes. By contrast, each of independent claims 1, 17, 29, 38 and 49 involve delivering messages from each worker object or worker process to an underlying layer of the plurality of communication connections (e.g., a communication link).

Likewise, Liebowitz et al. discloses a Frame Handler 64 for each port 40, with each port 40 corresponding to the data format of a particular data access device 42. (See e.g., column 4, lines 30-39; Fig. 4). Accordingly, as with the data queues 63, while it is correct that each Frame Handler 64 corresponds to a communication connection, the communication connections are to receive the data from the data access devices, not to deliver the data as messages to the satellite 14. Further, the messages to be delivered (e.g., payload 108 and payload header 106) are not formed in the burst buffer 68, rather than in or by the Frame Handlers 64. The Frame Handlers 64 are therefore not the recited worker objects or worker processes. Again, each of independent claims 1, 17, 29, 38 and 49 involve delivering messages from a worker object or worker process to an underlying layer of the plurality of communication connections (e.g., a communication link).

Liebowitz et al. also discloses that multiple burst buffers 68 may be used as needed to accommodate the amount of data to be delivered to the satellite. However, each burst buffer 68 is not associated with a different communication connection. Instead, the number of burst buffers 68 is entirely dependent upon the amount of data being delivered over the communication link to the satellite 14, rather than on separate communication connections. (See e.g., column 4, lines 51-57). That is, each burst buffer 68 is associated with the communication link as a whole (i.e., the communication link with the satellite 14) to accommodate the overall bandwidth, rather than with one of a plurality of individual communication connections thereof. The burst buffers 68 are therefore not the recited worker objects or worker processes. By contrast, each of independent claims 1, 17, 29, 38 and 49 involve a separate communication connection for each worker object or worker process (e.g., a worker object being established for each one of the communication connections (claim 1), each worker object being associated with one of the communication connections (claim 17), a one-to-one correspondence between the plurality of worker processes and the plurality of communication connections (claim 29), a separate communication connection being instantiated for each worker object or worker process (claims 38 and 49), etc.).

Even looking at the data queues 63, the Frame Handlers 64, and the burst buffer 68 in combination, Liebowitz et al. does not disclose the recited worker objects or worker processes. For example, to the extent the action may assert each FAD 66 is a worker object or worker process, it is noted that each terminal 12 is only disclosed as including one FAD 66. However, each FAD 66 (and hence each terminal 12) does not correspond to the recited worker object or worker process, because each FAD 66 (and terminal 12) maintains its own communication link with the satellite 14, rather than one of a plurality of communication connections of a communication link. (See e.g., column 3, lines 39-57; Fig. 1).

Still further, Liebowitz et al. does not disclose each of the features that involve the worker objects or worker processes. In particular, Liebowitz et al. does not anticipate either of independent claims 1 or 17, because Liebowitz et al. does not disclose or suggest delivering messages so that each communication connection uses no more than a predetermined portion of the bandwidth. While Liebowitz et al. discloses allocating bandwidth based on a stream request for a guaranteed amount of bandwidth (e.g., bandwidth requests stored in the burst buffer 68), the bandwidth request relates to the communication link of the terminal 12 as a whole (i.e., terminal committed information rate (CIR)), rather than limiting the use of bandwidth by each of a plurality of communication connections of the communication link. (See e.g., column 5, line 67 to column 6, line 7: a manager terminal (MT) "determines how to allocate bandwidth among all terminals 12 based on their collective bandwidth requests" (emphasis added)). In other words, while the communication link of a terminal 12 may be allocated a particular bandwidth, individual communication connections of the communication link are not limited to using no more than a predetermined portion of the allocated bandwidth. While Liebowitz et al. also discloses that fixed and guaranteed bandwidths may be allocated to individual ports 40 (i.e., port CIR) and individual terminals 12 (i.e., terminal CIR) the allocation of bandwidth is only a minimum guaranteed bandwidth. (See e.g., column 16, lines 47-53). Indeed, the individual ports 40 and terminals 12 may exceed the allocated bandwidth by requesting more than the minimum guaranteed bandwidth. (See e.g., column 17, lines 44-57). As a result, messages are not delivered such that individual ports 40 or individual terminals 12 are allocated bandwidth and limited to using no more than the allocated bandwidth.

Liebowitz et al. also does not anticipate either of independent claims 17 or 29, because Liebowitz et al. does not disclose or suggest a one-to-one correspondence between

the plurality of worker processes and the plurality of partitioned data streams. In particular, the action appears to cite the Frame Handlers 64 as the recited worker objects or worker processes. (See action page 9 quoting column 4, lines 37-39 which reads "[there] can be multiple Frame Handler modules 64 to support different formats and a multiplicity of communication ports 40, as shown in Fig. 4."). The action further appears to cite the real time data and non-real time data as relating to the partitioned data streams. (See action page 10 quoting column 5, lines 7-22 which reads in part ""the priority scheme preferably provides at least two primary levels of priority ... The first primary priority level is for real time data. The second primary priority level is for non-real time data."). The data is partitioned into real time data and non-real time data, with data queues 70 provided for the real time data and data queues 72 provided for the non-real time data. Data queues 74 are provided for Ethernet data. However, as seen in Fig. 4, the Frame Handlers 64 do not have a one-to-one correspondence with the data queues 70, 72, 74. Instead all data from all Frame Handlers 64 are generally provided to the all data queues 70, 72, 74 where the data is then stored according to type. While the action may be correct in asserting the data is partitioned based on data type (e.g., real time, non-real time, Ethernet), there is no disclosure that each Frame Handler 64 corresponds to a particular data type. As such, there can be no one-to-one correspondence between the Frame Handlers 64 (i.e., the asserted worker objects or worker processes) and the types of data (i.e., the asserted partitioned data streams). Although data queue 74 may correspond to a virtual circuit, the virtual circuit corresponds to multiple data queues 63 and sources 42 (and hence multiple Frame Handlers 64) of Ethernet frames, so again there is no one-to-one correspondence between the Frame Handlers 64 and the type of data. (See e.g., column 5, lines 17-29).

Liebowitz et al. further does not anticipate either of independent claims 38 or 49, because Liebowitz et al. does not disclose or suggest a time between calls parameter as one of a uniquely configurable set of parameters for each worker object or worker process. In particular, the action appears to cite the burst queues 68 as the recited worker objects or worker processes, given the burst queues 68 store fragments using the data from the user access devices 42 for burst transmissions from the TDMA modem 54 as controlled by the TDMA modem controller (TMC) 76. (See action page 11 quoting column 21, lines 33-39 which reads in part "said processor being operable to generate bursts using data received from said user access devices ..." as compared with column 4, lines 51-67 and column 5,

lines 49-57). The action further appears to cite the timing indicator as the recited time between calls parameter. (See action page 12 quoting column 5, lines 52-62 which recites in part "[the] FAD 66 also sends a timing indicator to the TMC 76 indicating the precise time it can transmit a burst."). However, the timing indicator is based on a burst plan (see e.g., Table I) for the entire FAD 66 (and hence the entire terminal 12), as opposed to a parameter of the data queues 68. The burst plan controls when the terminal 12 can send a burst to ensure only one terminal 12 transmits during a burst duration or slot in a TDMA frame. (See e.g., column 5, lines 52-57). Accordingly, the timing indicator is associated with the FAD 66 and the terminal 12 as a whole rather than uniquely associated with each burst queue 68. By contrast, each of independent claims 38 and 49 involve a set of communication connection parameters uniquely associated with each of a plurality of worker objects or worker processes, which includes a time between calls parameter.

Accordingly, while individual aspects of Liebowitz et al. may appear to disclose the various features of independent claims 1, 17, 29, 38 and 49, Liebowitz et al. does not disclose the same arrangement of the features as provided in independent claims 1, 17, 29, 38 and 49, because there is no aspect of Liebowitz et al. that corresponds to the recited worker objects or worker processes. In other words, none of the data queues 63, the Frame Handlers 64 or the burst buffers 68, whether taken individually or in combination (e.g., as the FAD 66) corresponds to the recited worker objects or worker processes. As a result, Liebowitz et al. does not disclose the features involving the worker objects or worker processes. It is clear that MPEP 2131 requires that a claim can only be anticipated if each and every element as set forth in the claim is found in a signal prior art reference. (See *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987)). MPEP 2131 further requires that the elements must be arranged as required by the claim. (See In Re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)). Accordingly, none of claims 1, 3-6, 8-18, 21-32, 34-41, 43-50 and 52-57 are anticipated by Liebowitz et al., because Liebowitz et al. does not disclose each of the features as arranged in each of the claims.

For the foregoing reasons, reconsideration and withdrawal of the rejections of the claims and allowance thereof are respectfully requested. Should the examiner wish to discuss the foregoing, or any matter of form, in an effort to advance this application towards allowance, the examiner is urged to telephone the undersigned at the indicated number.

Respectfully submitted,

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